

CLAIMS

1. A packet communication apparatus that receives a data packet through a high speed receiving channel and transmits an ACK packet on a low speed transmitting channel on a symmetrical 5 packet channels, said packet communication apparatus comprising:

a holder that holds a size of the ACK packet that is transmitted and a channel rate of the transmitting channel;

10 a calculator that calculates an ACK packet generation interval based on the size of the ACK packet and the channel rate of the transmission channel;

a counter that repeats counting the calculated ACK packet generation interval as one period and outputs an expiration signal every time the one period expires; and

15 a transmitter that, every time the expiration signal is input, generates an ACK packet containing latest reception confirmation information related to data packets received while the expiration signal was being received, and transmits the ACK packet to a transmission stage.

20

2. A packet communication apparatus that receives a data packet through a high speed receiving channel and transmits an ACK packet on a low speed transmitting channel on a symmetrical 25 packet channels, said packet communication apparatus comprising:

an accumulator that sequentially accumulates ACK packets generated every time a data packet is received and sequentially

transmits to a transmission stage the ACK packets from ones accumulated earlier; and

an accumulation controller that, when an ACK packet that is newly generated is accumulated in said accumulator, compares

5 an immediately previous ACK packet that was last accumulated and the new ACK packet to see whether the ACK packets match or do not match, and, when the packets do not match, removes the immediately previous ACK packet and accumulates the new ACK packet, and, when the ACK packets match, additionally

10 accumulates the new ACK packet to the accumulator.

3. The packet communication apparatus according to claim 1, further comprising:

a counter that counts the number of times ACK packets

15 are transmitted;

an updater that compares a newly generated and an ACK packet that was generated immediately before, and that resets the counter when the ACK packets do not match and updates the counter when the ACK packets match; and

20 a section that discards the newly generated ACK packet when the count value on the counter exceeds a set value.

4. The packet communication apparatus according to claim 2, further comprising:

25 a counter that counts the number of times ACK packets are transmitted;

an updater that compares a newly generated and an ACK

packet that was generated immediately before, and that resets the counter when the ACK packets do not match and updates the counter when the ACK packets match; and

a section that discards the newly generated ACK packet

- 5 when the count value on the counter exceeds a set value.